

## Quarterly Progress Report

<b>Project Title:</b>	<b>Corrugated Steel Culvert Pipe Deterioration -Year I</b>		
<b>RFP Number:</b> 2002 – 02	<b>NJDOT Research Project Manager:</b> Mr. Robert Sasor		
<b>Task Order Number/Study Number:</b> TO-42	<b>Principal Investigator:</b> Meegoda, Jay N.		
<b>Period Starting:</b> 1/1/2003 - 12/31/2004 (Start-End Date of Study)	<b>Period Ending:</b> 12/18/2003		

<b>Task</b>	<b>% of Total</b>	<b>% of Task this quarter</b>	<b>% of Task to date</b>	<b>% of Total Complete</b>
Phase I – Literature Search	9.5	0	100	9.5
Phase II – Task 1	6	85	100	6
Phase II – Task 2	6	85	100	6
Phase II – Task 3	6	10	60	3.6
Phase II – Task 4	6	0	0	0
Phase II – Task 5	6	40	40	2.4
Phase II – Task 6	9.5	15	40	3.8
Phase II – Task 7	6	0	0	0
Phase II – Task 8	15.0	0	0	0
Phase II – Task 9	15.0	15	40	6
Final Report	15.0	0	0	0
<b>TOTAL</b>	<b>100 %</b>			<b>37.3 %</b>

### 1. Progress this quarter by task:

APPROXIMATELY 60%

Literature search, Phase II Tasks 1 and 2 completed.

Approximately 60% of Phase II tasks 3

Approximately 30% of Phase II tasks 5, 6 and 9 are completed.

Phase II Task 3 - Studied means of assessing the condition of CSCP, estimating pipe deterioration rates, and predicting service life for pipes in different parts of the state and with different uses. Developed predictive model and submitted technical paper to TRB. Executed Outside User Agreement with USEPA to

allow use of their Edison Facility for flow testing of used CSCP.

Phase II Task 5 - Determine the best methods and materials for repairing, rehabilitating, or replacing CSCP based on the experiences of other states.

Study economic analyses of both methods and materials. Initiated the investigation. Based on the investigation a report will be generated in January

Phase II Task 6 - Study methods of inspection and maintenance record keeping and data storage used by other states. Examine data entry forms. Consider the benefits of storing CSCP pipe data in a centralized database, so that it could be easily accessed statewide to facilitate decision-making. Several meetings were held.

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Phase II Task 9 - Determine the conditions for which CSCP should be used in new construction. Obtain cost proposal for instrumented cathodic protection system. Once the system is purchased, testing will commence.

### **2. Proposed activities for next quarter by task:**

Phase II Task 3 - Study means of assessing the condition of CSCP, estimating pipe deterioration rates, and predicting service life for pipes in different parts of the state and with different uses. Perform hydraulic tests for old culverts.

Phase II Task 4. Investigate methodologies for determining the appropriate corrective action (repair, rehabilitate, and replace), and when to take it, to prevent or minimize CSCP failures. Examine methods for prioritizing work.

Phase II Task 5 - Determine the best methods and materials for repairing, rehabilitating, or replacing CSCP based on the experiences of other states. Study economic analyses of both methods and materials.

Phase II Task 6 - Study methods of inspection and maintenance record keeping and data storage used by other states. Consider the benefits of storing CSCP pipe data in a centralized database, so that it could be easily accessed statewide to facilitate decision-making.

Phase II Task 7. Estimate the cost of the statewide preventative maintenance program. Prepare a justification for funding the program, which compares program costs to the savings realized from preventing pipe and roadway collapses and the ensuing traffic delays (user costs) and expensive roadway repair.

Phase II Task 9 - Determine the conditions for which CSCP should be used in new construction.

### **3. List of deliverables provided in this quarter by task (product date):**

Phase II Task 1 - Contact other state DOT's, Technical Memorandum summarizing same.

### **4. Progress on implementation and training activities:**

None

### **5. Problems/proposed solutions:**

User agreement took more time than anticipated and hence field tests were postponed to year II.

### **6. Budget summary:**

### Quarterly Progress Report

Total Project Budget (# Years)	2 Year	\$282,766.00
Total Project Expenditure to date		\$32,000.00
% of Total Project Budget Expended		11.32%
Task Order Number/ Study Number	1 Year	TO-42
Current Task Order Budget (# of Years)		\$91,863.00
Actual Expenditure to Date Against Current Task Order		\$32,000.00
% of Current Task Order Budget Expended		34.83%